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1. $X \sim$ Geometric (p)

$P[X=k] = (1-p)^{k-1}p \quad (k \geq 1, k \in \mathbb{Z})$

$E(X) = \frac{1}{p}$

2. $X \sim$ Discrete-Uniform $(1, m)$

$P[X=k] = \frac{1}{m} \quad (1 \leq k \leq m, k \in \mathbb{Z})$

$E(X) = \frac{m+1}{2}$

3. $X \sim$ Binomial (n, p)

$P(X=k) = \binom{n}{k} p^k (1-p)^{n-k}$

$E(X) = np$

4. $X \sim$ Bernoulli (p)

$$P(X=k) = \begin{cases} 1-p & (k=0) \\ p & (k=1) \end{cases}$$

$E(X) = p$

5. $X \sim$ Poisson (γ)

$P[X=k] = e^{-\gamma} \cdot \frac{\gamma^k}{k!} \quad (k \geq 1, k \in \mathbb{Z})$

$E(X) = \gamma$

6. $X \sim$ Exponential (γ)

$$f(x) = \begin{cases} 0 & (x \leq 0) \\ \gamma e^{-\gamma x} & (x > 0) \end{cases}$$

$E(X) = \frac{1}{\gamma}$

7. $X \sim N(\mu, \sigma^2)$

$f(x) = \frac{1}{\sqrt{2\pi}\,\sigma} e^{-\frac{(x-\mu)^2}{2\sigma^2}}$

$E(X) = \mu$

8. $X \sim$ Uniform (a, b)

$$f(x) = \begin{cases} \frac{1}{b-a} & (a \leq x < b) \\ 0 & (x < a \text{ OR } x \geq b) \end{cases}$$

$E(X) = \frac{a+b}{2}$